IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant: Robert D. Feldman, et al.	§	
	§	
Serial No.: 10/092,746	§	Group Art Unit: 2613
	§	
Confirmation No.: 2870	§	Examiner: Wang, Quan Zhen
	§	
Filed: March 7, 2002	§	
	§	
For: METHOD AND APPARATUS FOR AUTOMATICALLY CONTROLLING OPTICAL SIGNAL POWER IN OPTICAL TRANSMISSION SYSTEM	§	

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

REPLY BRIEF

Appellants submit this Reply Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 2613 dated November 8, 2007, finally rejecting claims 1, 3-10, 12-14 and 18-20.

In the event that an extension of time is required for this Reply Brief to be considered timely, and a petition therefor does not otherwise accompany this appeal brief, any necessary extension of time is hereby petitioned for.

Appellants do not believe that any fee is due in connection with this Reply Brief. In the event Appellants are incorrect, the Commissioner is authorized to any fees due to make this filing timely and complete (including extension of time fees) to Deposit Account No. 20-0782/LCNT/**124417**.

REMARKS

35 U.S.C. § 103(a), Claims 1, 3-10, 12-14, 16, 18-20

Claims 1, 3-10, 12-14, 16 and 18-20 (all currently pending claims) stand rejected under 35 U.S.C. §103(a) as being unpatentable over Maddocks et al. (U.S. Patent No. 6,483,616 B1, hereinafter "Maddocks") in view of Rowley (U.S. Patent No. 4,833,668, hereinafter "Rowley").

In the Answer, the Examiner adheres to prior arguments that the combination of Maddocks and Rowley renders Appellants' claims obvious. The Examiner also found unpersuasive the Appellants' argument that the combined teaching of Maddocks and Rowley does not teach or suggest at least the following features of Appellants' claim 1: "reducing the power level of an optical data signal propagating in an optical fiber path in response to a loss of a counter-propagating supervisory signal in the optical fiber path." The Examiner asserts that "Maddocks differs from the claimed invention in that "Maddocks does not specifically disclose that the counter-propagating optical supervisory channel is propagating in the same optical fiber as the optical data signal. However, Maddocks further discloses that the system could be a single optical fiber system...When only one fiber is used for the system, the counter-propagating supervisory channel is propagating in 'the optical fiber path.'" (Examiner's Supplemental Answer, p. 5, hereinafter "Examiner's Answer"). Even accepting the Examiner's statements, Appellants fail to see how the mere possibility that Maddocks' system could have a counter-propagating optical signal in the optical fiber path renders Appellants' independent claims obvious.

Appellants' independent claim 1 recites in full:

> 1. A method, comprising:
> reducing the power level of an optical data signal propagating in an optical fiber path in response to a loss of a counter-propagating supervisory signal in the optical fiber path;
> reducing counter-propagating optical power in response to a loss of the optical data signal; and
> responsive to the loss of the optical data signal, reducing counter-propagating optical signal power output from at least one additional network element by a predetermined amount.

Referring to Appellants' independent claim 1, the power level of an optical data signal (i.e. "forward" channel(s), Fig. 2, **112**) is reduced "**in response to** a loss of a counter-propagating supervisory channel [**114**]" and counter-propagating optical power (i.e. reverse channel(s) on fiber **107**) is reduced "**in response to** a loss of the optical data signal [**112**]." In Appellants' method, the forward signal (i.e. the optical data signal **112**) and the reverse signal (i.e. the optical data signal on **107**) can be shut down simultaneously because the shutdown of the forward signal **112** is in response to the loss of the counter-propagating control signal **114**, and the shutdown of the reverse signal (on **107)** is in response to the loss of the forward data signal **112**. (*see* Specification, p. 4 line 30—p. 5 line 9, also found at US App. Pub. No. 2004/0208519 A1, par. 19).

In contrast, in Maddocks' system the reverse signal power is reduced only "when both the loss of signal condition [i.e. the forward data signal] and loss of frame condition [i.e. the co-propagating control signal in the same direction] are detected at the laser control unit 22..." (Maddocks, col. 3 lines 2-4). Furthermore, the power level of the forward optical data signal is only reduced when "Laser control unit 21 detects that amplifier 15 has been shut down by detecting its loss of signal at amplifier 18, and detects that supervisory unit 16 has been shut down by detecting the loss of frame condition..." (Maddocks col. 3 lines 7-10).

Given the foregoing, one can see that Maddocks' approach requires a complete loop around the system in order to shut down the forward transmitting lasers whereas Appellants' method, as embodied in independent claim 1, achieves faster shutdown of the transmitting lasers for both the forward and reverse paths. This results in a greater level of safety to technicians and others at risk following an optical system breach.

Also given the foregoing, Appellants submit that Maddocks does not teach or suggest at least the following two features of independent claim 1 "reducing the power level of an optical data signal propagating in an optical fiber path in response to a loss of a counter-propagating supervisory signal in the optical fiber path" and "reducing counter-propagating optical power in response to a loss of the optical data signal."

Nor can the secondary reference Rawley supply these features which are missing from Maddocks. As discussed at length in Appellants' main Appeal Brief, Rowley teaches a method of detecting a break in an optical communications system wherein data is inverted prior to transmission through a light guide and reinverted after it is received. If there is a fault in the light guide, inverted data will be detected at both ends of the system and the fault is revealed (*see* Rowley, Abstract). Rowley discloses data channels with embedded "supervisory signals" as a packet header, frame alignment sequence, or the like that is transmitted in the same direction as the data. (Rowley col. 5 lines 45-51). However, there is no separate counter-propagating control signal as clearly taught by Appellants' (*see e.g.* Specification, **114** in Figs. 1 and 2). It therefore cannot teach or disclose the counter-propagating control signal, as argued by the Examiner (Examiner's Answer p. 5), and thus has no bearing upon Appellants' claims. In addition, the frame alignment sequence type "supervisory signal" of Rowley would be redundant in Appellants' system as the control signals are clearly carried in a **separate** counter-propagating supervisory channel (*see* 114 Figs. 1, 2). Thus, one would have no reason to combine the teaching of Rowley with Maddocks.

Furthermore, even accepting the Examiner's interpretation of Rowley, the reference still does not teach or disclose "reducing the power level of an optical data signal propagating in an optical fiber path **in response to a loss of a counter-propagating supervisory signal** in the optical fiber path" and "reducing counter-propagating optical power **in response to a loss of the optical data signal**." Rowley only teaches detecting a break when inverted data is received. The Examiner refers to Rowley col. 5 lines 48-51 which states: "the inversion may alter supervisory signals such as the frame alignment signal so that fault condition is indicated." (Examiner's Answer, p. 11). This only indicates that the "supervisory signal" (e.g. frame alignment sequence and the like) are encoded to indicate that a break has been detected. The loss of a supervisory signal is not the trigger of error detection in Rowley--the trigger is an inversion from the expected data stream. It is the supervisory signal that is modified in response to a detection elsewhere of a break in the optical fiber. Thus, Rowley is completely different and does not operate in the same manner as the method of claim 1.

According to MPEP §2143, to establish a prima facie case of obviousness under §103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The Office Action fails to establish a prima facie case of obviousness, because the combination of Maddocks and Rowley fails to teach or suggest all the limitations of Applicants' invention of at least independent claim 1, in particular the features "reducing the power level of an optical data signal propagating in an optical fiber path in response to a loss of a counter-propagating supervisory signal in the optical fiber path" and "reducing counter-propagating optical power in response to a loss of the optical data signal." As such, claim 1 is patentable over the cited references and allowance is respectfully solicited.

Independent claims 10, 16 and 20 recite similar relevant limitations to claim 1 and for at least the same reasons as stated above with respect to claim 1 are not obvious over Maddocks in view of Rowley. Thus, independent claims 1, 10, 16 and 20 are patentable under 35 U.S.C. §103(a) and allowance is respectfully solicited.

Furthermore, dependent claims 3-9, 12-14 and 18-20 depend directly from independent claims 1, 10, 16 and 20, and recite additional features therefore. As such, and for at least the reasons set forth herein, the Appellant submits that dependent claims 3-9, 12-14 and 18-20 are also not anticipated by the teachings of Maddocks and Rowley. Therefore, the Appellant submits that dependent claims 3-9, 12-14 and 18-20 fully satisfy the requirements of 35 U.S.C. § 103 and are patentable thereunder.

CONCLUSION

Thus, the Appellant submits that none of the claims presently in the application are obvious under the respective provisions of 35 U.S.C. §103. Consequently, the Appellant believes all these claims are presently in condition for allowance.

For the reasons advanced above, Appellant respectfully urges that the rejections of claims 1-9, 11-13, 15 and 20-21 as being obvious under 35 U.S.C. §103 is improper. Reversal of the rejections of the Final Office Action is respectfully requested.

Respectfully submitted,

9/30/08
Date

Eamon J. Wall
Registration No. 39,414
PATTERSON & SHERIDAN, L.L.P.
595 Shrewsbury Ave. Suite 100
Shrewsbury, NJ 07702
Telephone: (732) 530-9404
Facsimile: (732) 530-9808
Agent for Appellant(s)